MCF 3M Opener

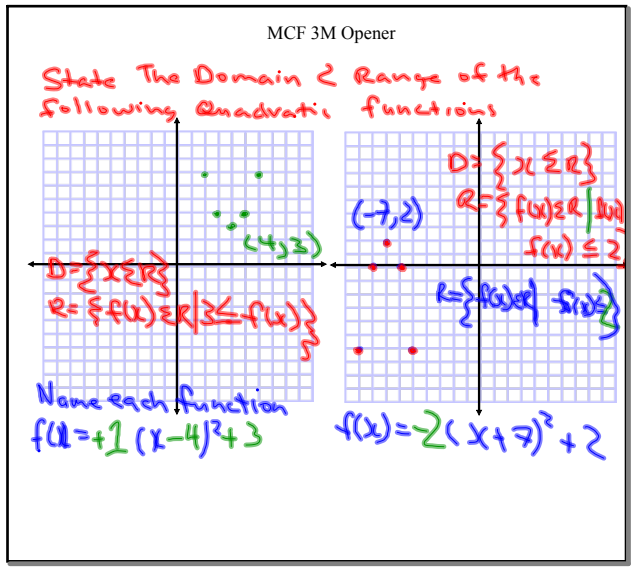
State The Domain & Range of the following Quadratic functions

(5,4) (4,3) (-7,2) (-4,0)

Name each function

$f(x) = a(x-h)^2+k$

Feb 17-9:23 AM

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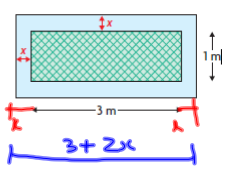
## 2.1 Working with Quadratic Expressions p. 78-87

Evelyn is sewing a quilt as shown. If the width of the border is $x$, state the area of the quilt as a function of $x$.




1+2x

3+2x

$A(x) = l \times w$

$A(x) = (3+2x)(1+2x)$

$A(x) = 3+6x+2x+4x^2$

$A(x) = 3+8x+4x^2$

$A(x) = 4x^2+8x+3$

Expansion

F
O
I
L

Feb 20-1:39 PM

## 2.1 Working with Quadratic Expressions

Multiplying Binomials

Expansion

F irst
O utside
I nside
L ast

i) $(x+3)(x-6)$

$x^2-6x+3x-18$

$x^2-3x-18$

ii) $(3x+2)(2x+3)$

$(3x+2)(2x+3)$

$= 6x^2+9x+4x+6$

$= 6x^2+13x+6$

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ii) $(2x-2)(4x+3)$

$= 8x^2+6x-8x-6$

$= 8x^2-2x-6$

iii) $(3x+2)^2 \rightarrow$ Perfect Squares

$(3x+2)(3x+2)$

$9x^2+6x+6x+4$

$9x^2+12x+4$

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v) $(2x+2)(2x-2)$ Difference of Squares

$4x^2-4x+4x-4$

$4x^2-4$

vi) $[4x(x-3)]+[(3x+2)(2x-6)]$

$[4x^2-12x]+[6x^2-18x+4x-12]$

$4x^2-12x+6x^2-18x+4x-12$

$10x^2-26x-12$

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q 5-8, 10,11, 14, 15 p 86 &87

(odds) Sa,c,e . . .

p 543 q. 3 & 4

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5

c) $2(x-3)^2 - (4x+1)(4x-1)$

$2(x-3)(x-3) - (4x+1)(4x-1)$

$2(x^2-3x-3x+9) - (4x+1)(4x-1)$

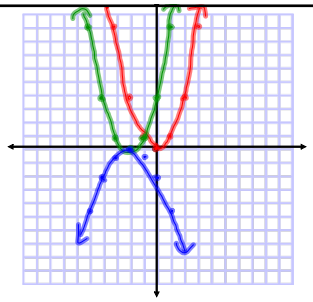
$2x^2-6x-6x+18 - (4x+1)(4x-1)$

$2x^2-6x-6x+18 - [16x^2-4x+4x-1]$

$2x^2-6x-6x+19 - 16x^2+4x-4x+1$

$-14x^2-12x+19$

Feb 17-10:21 AM



$y = x^2$

$y = -0.5(x+2)^2$

$y = (x+2)^2$

$y = a(x-h)^2 + k$

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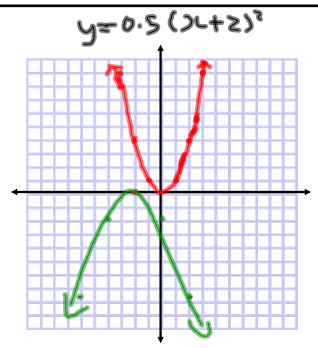

$y = 0.5(x+2)^2$

(-2, 0)

$a = -0.5$

over 1 up 1

over 2 up 2

over 3 up 4.5

over 4 up 8

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